

CLAIM or CLAIMS



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What I claim as my invention is:

20 A system that is used to align the suspension and geometric design of a vehicle with wheels thereof and comprising:

a an apparatus attached to the drive axle wheels on both sides of the vehicle at the same time while supporting a laser beam light that projects a beam;

b an apparatus attached to the steering axle wheels on both sides of the vehicle at the same time, with a scale attached to it, which will receive the beam of light from the drive axle apparatus for the alignment thereof;

c said apparatus is used on all wheels on both axles use pins designed and manufactured to locate units, and the threaded rods to hold them in place on the wheels;

d the adjustable trammel and rod, with points, used in conjunction with the said apparatus of the steering axle in front and back of the wheels to set the correct toe-in;

e said trammel and rod, with point, use in back of the drive axle wheel to check if the frame rails are centered on the axle herein;

21 Apparatus for checking the suspension for alignment thereof as set forth in claim 20 wherein:

a the use of roller plates designed and manufactured to place the wheels on when adjusting during the alignment thereof;

b the use of tooling designed and manufactured to calibrate the apparatus used on the wheels for the alignment thereof;

22 Apparatus for checking the suspension for alignment thereof of the wheels on a

trailer as set forth in claim 21 wherein:

a the use of an apparatus attached to the king pin, with a scale attached to the lower side supports that will receive said laser beam from the rear axle apparatus the same as used on the drive axle;

b the apparatus used on trucks are also used on buses;

c manufactured using aluminum bar stock which is light weight, and the system is mobile and can be used in the shop or in the field.

23 Apparatus for checking the suspension for alignment thereto as set forth in claim 20a wherein:

a said apparatus has a center vertical support with a horizontal support intersecting at the fifty percent (50%) markdown from the top of the vertical support, and another horizontal support intersecting at the twenty-five percent (25%) mark of the vertical support, and welded together;

b said top support is longer on the back section, and there are indentation's on the top of this support to receive the trammel point with the other end of the rod against the frame rail to check for the proper location of the frame on the axle on both sides. (Refer to claim 20e, above);

c said laser beam light is attached to the center of the center horizontal support and projects the beam of light onto the scale located in the center of the apparatus on the steering axle wheels. (Refer to claim 20a and 20b, above).

24 Apparatus for checking the suspension for alignment thereof as set forth in claim

20b wherein:

a said apparatus has a center vertical support with a horizontal support intersecting at the twenty-five percent (25%) mark down from the top of the vertical support, another horizontal support intersecting the vertical support at the seventy-five percent (75%) mark down from the top of the vertical support, and it goes pass the wheel in front and back, and has indentation's on the top edge on both ends, and are numbered so you use the correct place with the trammel rod and points to set the toe-in front to back and welded together;

b said apparatus has a smaller support that holds the scale and is welded onto the back edge of the vertical support at the fifty percent (50%) mark down from the top extending outward.

25 Apparatus for checking the suspension for alignment thereof as set forth in claim

20c wherein:

a said pins used for proper location of unit on wheels, one end is machined to fit in wheel outer perimeter, the other end machined flat, for the two fixed pins a steel insert in the center, and the other four pins have the insert installed off center so they will be eccentric when turned to fit all wheels;

b said pins are used in six locations on each apparatus for more accuracy, and three hole layout in units so they will be useable with more wheel sizes. They are installed with a bolt and chain so they will not get lost or damaged;

c said threaded rods, two of which are used on each apparatus to hold them into place, and are fitted with a compression spring so they will have the proper tension.

26 apparatus for checking the suspension for alignment thereof as set forth in claim 21a wherein:

a said roller plates embody two steel plates larger than any of the other patents used, nine blocks of aluminum with a hole drilled in the center to receive the ball transfer unit and bolted to the bottom plate, wherein each roller unit will carry approximately seven thousand pounds;

b said roller plates used under all wheels when any alignment thereof or adjusting is performed which allow the axle and wheel to be moved freely with the weight of the vehicle.

27 Apparatus for checking the suspension for alignment as set forth in claim 21b wherein:

a said tooling comprising of two aluminum plates, one rectangular and one cut in a triangle shape, used to support unit and welded together, by placing the two apparatus for the driver side, and the two apparatus for the passenger side and attach, at this point, the laser beam light to align them.

28 Apparatus for checking the suspension for alignment thereof as set forth in claim 22a wherein:

a        said apparatus for trailer alignment thereof embody parts making a large U shape that is installed upside down, and it rests on the king pin and the bottom of the trailer, with adjustable legs holding it in place.

b        the lower part of the two side supports holds a scale which receive the laser beam light from the same apparatus used on the drive axle, and it must align on the same number to be correct.

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